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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,447	09/14/2005	Chiaki Sasaoka	029437-0111	5540
22428 7590 12/05/2008 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER ZHANG, YUANDA	
			ART UNIT 2828	PAPER NUMBER
			MAIL DATE 12/05/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/549,447

**Applicant(s)**

SASAOKA, CHIAKI

**Examiner**

YUANDA ZHANG

**Art Unit**

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments filed 8/28/08 have been fully considered but they are not persuasive.
2. In response to Applicant's argument of claim 1, the Applicant has argued that Nidou et al do not disclose the amended limitations of "the laminated layers are trapezoid-shaped layers in cross-section that are stacked on top of one another such that each one of the laminated layers is positioned entirely above adjacently-positioned lower one of the laminated layers and said each one of the laminated layers is positioned entirely below an adjacently-positioned upper one of the laminated layers". The Examiner respectfully disagrees. In fact, Nidou et al do disclose the above claimed limitations. With reference to figures 6 and 8, each of the ridges consists of a trapezoid-shaped laminated layers which are stacked on top of one another such that each one of the laminated layers is positioned entirely above an adjacently-positioned lower one of the laminated layers and said each one of the laminated layers is positioned entirely below an adjacently-positioned upper one of the laminated layers.
3. In response to Applicant's argument of claim 2, the Applicant has argued that Nidou et al do not disclose the outmost side surfaces of the laminated layers are inclined at an angle of about 60 degrees. The Examiner notes that the argument is moot in view of new ground of rejection.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Nidou et al (JP 2001-320120 A).

6. In re claim 1, with reference to figure 6, Nidou et al disclose a semiconductor laser comprising a GaN-based semiconductor substrate (n mold GaN contact layer 62) and laminated layers (layers 64-71) formed on the GaN-based semiconductor substrate which include a GaN-based semiconductor clad layer (AlGaIn cladding layer 65) containing Al and an active layer (barrier layer 67) formed thereabove, wherein the outermost side surfaces of the laminated layers along the direction of the resonator of the semiconductor laser are inclined with respect to the GaN-based semiconductor substrate in such a direction that a resonator width is decreased from the GaN-based semiconductor substrate side to the upper portion of the laminated layers, and the laminated layers are trapezoid-shaped layers in cross-section that are stacked on top of one another such that each one of the laminated layers is positioned entirely above an adjacently-positioned lower one of the laminated layers and said each one of the laminated layers is positioned entirely below an adjacently positioned upper one of the laminated layers (figures 6 & 8, and Paragraph [0052]).

7. In re claim 3, Nidou et al disclose wherein the end surfaces of the resonator of the semiconductor laser are cleavage planes of the GaN-based semiconductor substrate and the laminated layers (Paragraph [0064]).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nidou et al (JP 2001-320120 A) in view of Chino et al (US Patent 6,266,354 B1).

10. In re claim 2, Nidou et al disclose wherein masks (63) are formed on the GaN-based semiconductor substrate (62) and the laminated layers (layers 64-71) are formed above the masks so that the side surfaces of the laminated layers along the direction of the resonator are from the grown surfaces of the semiconductor layers which have been selectively grown from the masks (Paragraph [0052]). Nidou et al do not disclose wherein the outermost side surfaces of the laminated layers are inclined at an angle of about 60 degrees with respect to an upper surface of GaN-based semiconductor substrate that is in contact with the a lowest-positioned one of the laminated layers. However, with reference to figure 11G, Chino et al disclose a semiconductor laser with a ridge-stripe 1109 wherein the outermost side surfaces of the ridge stripe are inclined at an angle of in a range between about 60 degrees to about 90 degrees with respect to an upper surface of a semiconductor substrate 1101 that is in contact with the a lowest-

positioned layer of the ridge stripe (col. 14 lines 58-61 and abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the outermost side surfaces of the laminated layers of Nidou et al with an incline angle of about 60 degrees, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 MPEP 2144.05 (II-A)

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUANDA ZHANG whose telephone number is

(571)270-1439. The examiner can normally be reached on Monday-Thursday, 7:30am-6:00p EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YZ/  
12/02/08

/Minsun Harvey/  
Supervisory Patent Examiner, Art Unit 2828